Introducing Community Based Distribution (CBD) of Injectable Contraceptives:

Experiences and outcomes from a pilot project in Tharaka District, Eastern Province of Kenya

Final Report
October 2010
Acknowledgments

This pilot project was a collaborative effort between the Division of Reproductive Health (DRH) under Ministry of Public Health and Sanitation (MOPHS), FHI, JHPIEGO, USAID/APHIA II Eastern and the Tharaka District Health Management Team (DHMT). The project would not have been possible without the commitment and constant support supervision from the Tharaka DHMT particularly, Dr. Edgar Munga, Former District Medical Officer of Health (DMOH), Dr. Mwige P. Mukami, Former DMOH, and Dr. Edward Munyi, current DMOH.

We are grateful to the two District Public Health Nurses (DPHNs), Mohamed Hambulle and Alex Mwirichia, who spent their time ensuring that the community-based distributors (CBDs) in Tharaka had adequate stocks of contraceptive supplies and also addressed any challenges that the CBDs faced in the course of their work. We appreciate the invaluable support provided to the CBDs by their supervisor, Angelo Nyaga (Nurse In–charge, Kanyuru Dispensary), who ensured that the CBDs were accorded appropriate support supervision. Our sincere gratitude also goes to Rose Munywa (Nurse In–charge, Rukunya Dispensary) Jackson Muthengi (Nurse in–charge, Kibung’a Sub District Hospital), as well as other medical staff in these three health facilities where the CBDs were attached. We would specifically like to appreciate the support of Charles Kirimi (Clinical Officer, Kibung’a) and Mureithi Nchege (Deputy DPHN, Tharaka).

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1 A detailed list of members of PAC can be found in appendix 3 of this report, including the names of members who have attended a PAC meeting, taken part in the Uganda education tour, and/or participated in the Tharaka pilot project field visit.
Martin, Loice Magaria, Lilian Were and Alice Olawo of FHI/Kenya, and Kirsten Krueger and Crystal Dreisbach of FHI/North Carolina. The above team ensured collaboration with all stakeholders at the district, provincial, national and global levels. They also conducted monthly monitoring visits to the field and held discussions with CBD agents. We would also like to appreciate Ruth Gathu of FHI/Kenya for her thorough editorial report review, formatting and creative cover design. This report would not have been possible without the entire team.

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<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>APHIA</td>
<td>AIDS, Population and Health Integrated Assistance</td>
</tr>
<tr>
<td>CBA</td>
<td>Community-Based Access</td>
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<tr>
<td>CBD</td>
<td>Community-Based Distributor</td>
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<tr>
<td>CBS</td>
<td>Central Bureau of Statistics</td>
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<tr>
<td>CHEW</td>
<td>Community Health Extension Worker</td>
</tr>
<tr>
<td>CHW</td>
<td>Community Health Worker</td>
</tr>
<tr>
<td>CPR</td>
<td>Contraceptive Prevalence Rate</td>
</tr>
<tr>
<td>DHMT</td>
<td>District Health Management Team</td>
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<tr>
<td>DMPA</td>
<td>Depot-medroxyprogesterone acetate</td>
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<tr>
<td>DRH</td>
<td>Division of Reproductive Health</td>
</tr>
<tr>
<td>FHI</td>
<td>Family Health International</td>
</tr>
<tr>
<td>GTZ</td>
<td>Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation)</td>
</tr>
<tr>
<td>HMIS</td>
<td>Health Management Information System</td>
</tr>
<tr>
<td>KCOA</td>
<td>Kenya Clinical Officers Association</td>
</tr>
<tr>
<td>KDHS</td>
<td>Kenya Demographic and Health Survey</td>
</tr>
<tr>
<td>KOGS</td>
<td>Kenya Obstetrical and Gynecological Society</td>
</tr>
<tr>
<td>M &amp; E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Governmental Organizations</td>
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<tr>
<td>NNAK</td>
<td>National Nurses Association of Kenya</td>
</tr>
<tr>
<td>PAC</td>
<td>Project Advisory Committee</td>
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<tr>
<td>PHMT</td>
<td>Provincial Health Management Team</td>
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</table>
Executive Summary

Global research evidence on community-based access (CBA) to injectable contraceptives shows that trained community health workers (CHWs)\(^2\) can safely, acceptably and effectively provide injectable contraceptive services in their communities. In addition, recent international technical guidance promotes the introduction, continuation and scale-up of this service delivery model.\(^3\)

Advocacy efforts in Kenya began in mid-2006 to gain key stakeholder support for launching a demonstration project in Kenya. Tharaka District in Eastern Province was selected as the pilot project site in early 2009. Community-based distributors (CBDs) in Tharaka had already been providing contraceptive pills and condoms in their communities; of these, 31 were selected to participate in the pilot and to receive additional training so as to provide injectable contraceptives. Service delivery began in late August 2009.

Monitoring results from August 2009 – September 2010 data show that the pilot project has made a substantial difference by reaching large numbers of previously underserved women in rural Tharaka with a range of family planning services. Within this period, CBDs reached 1,245 clients, with over two thirds (67%) of them accepting DMPA. CBDs appear to play a significant role in reaching women with family planning services. Indeed, 12% were new DMPA clients who had never used any family planning method before, 14% had used pills or other methods but switched to DMPA, and about three quarters (74%) of DMPA clients had previously received DMPA services from clinics but now opted to receive them from CBDs. Interestingly, the pilot also appeared to have a positive effect on DMPA uptake at the facility, as shown by a 70% increase in clinic clients in the first three months of the pilot. Continuation rates for DMPA were also very positive, with over two thirds (68%) of DMPA clients having already received their fourth injection on time by mid-September 2010. No needle stick injuries, injection site abscesses or other adverse events were reported during this period, a further indication that the CBDs were offering quality services.

The Tharaka district pilot experiences and results as highlighted in this report provide important insights for policymakers and program managers as they make decisions about continuing the initiative and replicating it in other parts of the country. Given health worker shortages, low contraceptive prevalence rate (CPR), and inadequate access to health services particularly in rural areas, this intervention presents an important opportunity for Kenya to increase access to family planning, reduce maternal mortality rates and reach their national development goals. The Division of Reproductive Health together with collaborating partners recommends scale up of this service delivery model in Kenya to improve access to family planning services among underserved and hard to reach communities.

\(^{2}\) “CHWs” is a generic name for all types of community health workers. In Kenya, however, community health workers who have been trained to provide family planning services are referred to as Community Based Distributors (CBD agents).

Introduction

Community-based access to injectables
Community-based access (CBA) to injectable contraceptives has been in practice in Asia and Latin America since the 1970s. It is recognized as a safe, acceptable and effective means to increase access to family planning, method choice, and healthy birth spacing among underserved populations with poor access to clinic-based health care. New international technical guidance from the World Health Organization (WHO) and others promotes the introduction, continuation and scale-up of this service delivery model\(^4\).

Kenya background
At the time the pilot project was undertaken, the most current data was the 2003 Kenya Demographic and Health Survey which reported modern contraceptive prevalence rate (CPR) at 31.5 percent among currently married women, unmet need for contraception at 24.5 percent, and a total fertility rate of 4.9 births per woman. In addition, a maternal mortality rate of 414 per 100,000 live births and unintended recent births at 52 percent were reported by the same survey. Preliminary results of the 2008 KDHS showed some improvement, notably the CPR at 39 percent for modern methods. DMPA remained by far the most popular method with 22 percent of married women using it.

Over 70 percent of Kenya’s population lives in underserved rural areas where many women do not have adequate access to family planning services. Health worker shortages, particularly in rural areas, mean that facilities are understaffed. For this reason, there is need to develop and expand innovative methods which bring family planning services to rural communities.

Training community health workers (CBDs) in Kenya to provide injectable contraceptives is in harmony with the Kenya Ministry of Health’s (MOH) June 2006 Community Strategy for healthcare delivery. According to this strategy, CHWs are selected by the community, trained in various aspects of health service delivery and attached to a health facility where they receive supportive supervision. Each group of 20 households is allocated one CHW; and 50 CHWs are supported by one community extension worker (CHEW). The CHWs are trained on how to serve the community, monitor morbidity and mortality, link with the health facilities for timely treatment, and keep health records for the community (MOH, 2006). The strategy seeks to enhance level I service delivery, which is considered the first basic level for health service delivery in the country.

About this report
This report, which documents the CBD of DMPA pilot process, highlights lessons learned from introducing this service delivery model in Kenya, provides analysis of both CBD and service delivery statistics collected during the 12 months of the pilot, and recommends ways forward given these positive outcomes.

Partners and Advocacy

Project partners
The primary project partners included the Division of Reproductive Health (DRH), Ministry of Health (DRH/MOH), the Tharak a District Health Management Team (DHMT), Jhpiego, USAID/APHIA II Eastern, and FHI.

Advocacy
FHI and other implementing partners developed an advocacy strategy and facilitated a host of meetings and other advocacy activities over a period of three years to create interest in and support for CBD provision of DMPA within the Ministry of Health and key stakeholder groups. They relied in part on data and tools from an advocacy kit (co-branded by the Kenya MOH) which outlined the evidence of effectiveness of community-based provision of DMPA.

FHI began initial advocacy meetings with DRH leadership in mid-2006. It went on to sensitize professional medical associations and non-governmental organizations (NGOs) active in the field of reproductive health and to share experiences with CBD provision of DMPA from other countries.

In March 2007, ten delegates from Kenya\(^5\) participated in an educational tour to Uganda to learn from the neighboring country’s CBD of injectables contraceptives program. Upon their return, the delegation presented their observations and recommendations at a national stakeholders’ meeting in July 2007.

At this meeting, stakeholders recommended conducting a pilot project in Kenya and forming a Project Advisory Committee (PAC), as a sub-committee of the Family Planning Technical Working Group chaired by the DRH/MOH, in order to guide implementation of the pilot. The PAC was established shortly thereafter and included representatives of professional associations such as Kenya Medical Association, Division of Nursing, Nursing Council of Kenya, Kenya Clinical Officers Association, Kenya Obstetrics and Gynecological Society, training institutions (i.e., University of Nairobi and Kenya Medical Training College), donors and non-governmental organizations (NGOs) that are directly involved in reproductive health and family planning activities. Subsequently, the Division of Community Services as well as the Department of Obstetrics and Gynecology/Ministry of Medical Services became PAC members. The Tharaka DHMT was also represented on the Committee to ensure district-level participation in decisions pertaining to project implementation.

A broader forum of district-level stakeholders also endorsed the project, including nursing staff (Marimanti District Hospital, Kibunga Sub District Hospital, Kanyuru Dispensary), district security personnel (Officer Commanding Station – Tharaka District), administration personnel (Chief and Assistant Chiefs), and development partners (Plan International, Chogoria Mission Hospital).

\(^5\) Delegates represented MOH/DRH, Kenya Obstetrics and Gynecological Society (KOGS), National Nurses Association of Kenya (NNAK), The Nursing Council, MOH/GTZ CBD program, Kenya Clinical Officers Association (KCOA), Jhpiego and FHI.
Local community leaders worked closely with the project implementation team to identify CBDs for participation in the project. Community sensitization took place when trained CBDs were introduced to the community during their graduation ceremony.

Project Design and Implementation

Objectives and activities
The main objective of the project was to support the DRH’s efforts to increase access to contraceptive services through community-based provision of DMPA by trained CBDs. The following activities were undertaken to support this effort:

- National advocacy for community-based provision of injectable contraceptives;
- Adaptation of training materials and other job aids;
- Training and support to CBDs to provide injectable contraceptives in the pilot communities; and
- Monitoring quality of services and fully documenting pilot project experiences to inform subsequent efforts.

Indicators
The following indicators formed the basis of data collection for this pilot project:

- Total number of family planning users (both clinic and CBD clients) in the intervention area prior to and during introduction of this strategy;
- 12-month discontinuation rates for CBD clients using DMPA; and
- Returning DMPA clients served in the clinics to which CBDs were attached.

Site identification
FHI and the DRH conducted a rapid assessment in 2007 in Siaya and Kisumu districts (Nyanza province), Butere and Mumias districts (Western province), and Meru Central and Tharaka districts (Eastern province), all of which had a history of community health programs focusing on contraceptive distribution. The assessment examined contraceptive prevalence, existence and number of CBDs involved in contraceptive distribution, availability and extent of linkages with the health system, and funding. Based on the rapid assessment results, Tharaka district was selected for the demonstration project and approved by local authorities. Kanyuru and Kibunga communities were chosen as pilot sites within Tharaka.

Tharaka district: the setting
Tharaka district is situated five hours’ drive northeast of Nairobi in Kenya’s Eastern Province. Communities within the Tharaka district were deemed suitable for the pilot project because of their remote rural location, limited access to health facilities and low contraceptive prevalence. The district is considered one of Kenya’s poorest. Most of its residents have an average monthly income of 500 Ksh (USD $6.50) (Aikman, 107).

The district’s population according to the 2010 census report is 130,098 persons, 21 percent of whom are women of childbearing age (15–49 years). Nearly half (44%) of the

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6 Rapid assessment indicators were provided in part by Provision of Injectable Contraceptive Services through Community – Based Distribution: Implementation Handbook by Weil B, Krueger K, Stanback J, & Hoke T. H. (2007)
district’s total population is under 15 years of age. (2009 Kenya Population and Housing Census, Volume IC, 79). Life expectancy in the district is 48.9 years for males and 56.2 years for females.

There are two hospitals, two health centers and nine dispensaries within the district. However, women in the pilot project communities report that it takes them 1-2 hours on foot to arrive at the nearest health facility.

There are no paved roads, and the infrastructure is very poor. The district was connected to an electric power supply in November 2007.

Selection of CBDs

One of the key issues discussed with the DHMT during the initial meetings was the identification of CBDs to participate in the pilot project. These general selection criteria were agreed upon to guide the selection process:

- Previous experience providing pills and condoms;
- Level of education that would enable them to read and understand information in the training materials, including job aids; and
- Acceptability in the community.

Together with the DHMT, the local government leaders in the pilot project communities identified 31 CBDs to participate. These CBDs were unpaid volunteer workers.

CBD training

Development of training curriculum and tools

JHPIEGO and USAID/APHIA II Eastern led the development of a draft national training curriculum comprised of a participant manual, trainer manual and reference guide. In addition, a number of job aids such as family planning screening checklists developed by FHI and branded by the Kenya MOH were adapted for use along with the curriculum.

The training curriculum and tools were reviewed by FHI and JHPIEGO to ensure technical accuracy of information. Other contributors included DRH, Tharaka DHMT and members of the PAC. Also, input from the trainers and CBDs in Tharaka was later incorporated. The curriculum will undergo final review under DRH guidance following dissemination of the pilot project findings and in preparation for potential scale-up to other districts.
**Classroom training and clinical practicum**

The 31 selected CBDs were trained for three weeks in August 2009. The training included six days of classroom work in which the CBDs reviewed the basics, including counseling women on the range of available family planning methods.

They were also trained in the provision of emergency contraceptive pills (EC) and injectable contraceptives, including infection prevention procedures, safe injection techniques and referrals. Substantial time was spent practicing injection provision using tomatoes and oranges. The CBDs were also taken step-by-step through the process of completing record-keeping documents correctly.

A subsequent two-week clinical practicum was arranged to allow CBDs to provide family planning services to real clinic clients, including provision of DMPA injections under the supervision of selected MOH trainers\(^7\), as well as by their own supervisors at community health facilities. CBDs spent four days in selected district level health facilities and a final three days in selected health facilities closer to the communities of the CBDs and within Tharaka District. CBDs achieved pre-determined competence standards during the practicum phase of the training, including correct administration of at least four supervised injections prior to being certified to administer injections on their own.

The training concluded with a graduation ceremony during which the community was sensitized about the additional skills the CBDs had acquired and corresponding services they would therefore be providing. CBDs received some branded in-kind gifts at this time, including a t-shirt, cap and umbrella.

**Logistics and commodities**

Upon graduating, each CBD was equipped with a bucket with tap for washing hands, a locking box to store their supplies and a seed-stock of commodities including:

- 25 Depo-Provera kits, including Depo vials, needles and syringes\(^8\); and
- 1 safety box for sharps.
- A supply of condoms
- A supply of oral contraceptive pills
- Basic stationery

The 31 CBDs in the pilot were attached to three Tharaka district health facilities (Kanyuru, Rukenya and Kibunga). At these facilities, they received supportive

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\(^7\) MOH trainers included representatives of the DRH, Tharaka DHMT, PHMT, in-charges of MOH facilities that were used for clinical practice, FHI, Jhpiego/APHIA II Eastern and Chogoria Mission Hospital.

\(^8\) The Depo-Provera kits available for use in this pilot were supplied by UNFPA and included alcohol swabs, as well as syringes. The syringes were not the auto-disable type recommended by the WHO. The syringes hold 2 ml and have a 1-inch needle.
supervision by designated healthcare providers, disposed of used safety boxes when they become full, received re-supply of commodities, and made referrals for long term family planning methods. Not all referrals were made to these three health facilities. For example, clients who lived closer to the district hospital were referred there for permanent contraceptive methods or other clinical services. Further, Rukenya and Kanyuru dispensaries did not provide long term methods either because of unskilled staff (Rukenya) or lack of sterilized supplies for insertion (Kanyuru).

CBDs made a total of 65 referrals to the health facilities for clinic-based contraceptive methods or other services during the period of the pilot project.

**Supervision**

The 31 CBDs are currently supported by two supervisors. Twenty-seven are attached to Kanyuru and Rukenya dispensaries and are supervised by the nurse in charge of Kanyuru dispensary. The other four are attached to Kibunga and are supervised by the Public Health Technician (PHT) at the same facility. Both supervisors report to the District Public Health Nurse (DPHN).

The supervision structure above is based upon the community strategy whereby the CBD agents are supervised by a CHEW or a Health Unit In–charge who then reports to the District Public Health Nurse (DPHN) (See Appendix 1).

According to the supervision structure and plan developed prior to the start of the pilot (see Appendix 1), supervisors were instructed to meet with each CBD monthly at the health center with occasional visits to CBDs' homes. However, only one CBD home visit occurred in Kanyuru. Given the staff shortages affecting the country as a whole, Kanyuru dispensary was too understaffed to make several visits to CBDs' homes. The supervisor in Kanyuru was often the only staff qualified to be in charge of the dispensary where he worked. Therefore, it was not possible for him to leave the dispensary to conduct supervision visits to the homes of the CBDs. A creative solution he devised was to institute a schedule that allowed two CBDs at a time to come to the dispensary during the week and provide family planning services under his supervision. This schedule allowed the supervisor to monitor the CBDs' performance without having to leave the dispensary unstaffed and also provided valuable additional support at this short-staffed facility. Also, one CBD who happened to be the chief of Kanyuru village provided additional peer support to other CBDs in his area.

Two types of supervision checklists were used to conduct supervision at the CBDs' homes and also at the clinic. A more detailed description and copies of the checklists are provided in Appendix 1.

Apart from the supervision checklists, the CBD supervisor also completed four other forms to enhance record keeping at the facility and district level. They included monthly summary forms for a) contraceptives given to the CBDs, b) contraceptives distributed by the CBDs, c) referrals made by the CBD and d) any complications reported. It is important to note that no complications were reported during the pilot project.

**Monitoring & Evaluation (M&E)**
Both CBDs and supervisors recorded service delivery statistics in multiple places. Specifically, the CBDs completed a client tracking card for each family planning client, a referral form for each client referred, and a monthly summary sheet. These forms were recorded in triplicate, with copies submitted to the district health facility in order to integrate data collection with the national health management information system (HMIS).

CBD service delivery statistics were collected by the implementing partner team during monthly monitoring visits for pilot documentation and management purposes. Data were entered, cleaned and analyzed in Excel.

In addition, aggregated service delivery statistics were also collected for the three government health facilities to which the CBDs in Tharaka were attached. At these facilities, similar to most other government health facilities, family planning client visits were recorded in a Daily Activity Register, and data from this register was aggregated each month. For the purpose of comparing clinic and CBD service delivery, this aggregated clinic data was also compiled into an Excel database.

### Service delivery data

Service delivery statistics were collected in an Excel database by the implementing partner team members during monthly M&E visits. Data were queried and cleaned by staff at FHI. All analysis was conducted in Excel.

From the start of the pilot project in August 2009 through to September 2010, the 31 trained CBDs in Tharaka district provided a total of 1245 clients with family planning services. On average, each CBD served a client load of 40 family planning clients during the pilot project period. A few cases of double entry existed, for example clients using condoms in combination with another FP method were double counted.

**DMPA users**

Table 1 presents an overview of family planning services provided by the 31 CBDs during the period of August 2009 to September 2010. Depo-Provera was clearly the most popular method among clients. CBDs served a total of 832 DMPA clients which made up over two thirds of their total family planning clients. Notably, CBDs were able to reach new family planning users, as evidenced by the fact that 12% of their DMPA clients had never used a family planning method before. Another 14% of the CBDs’ DMPA clients were new DMPA users who had previously used other methods.
Table 1: Family planning services provided by CBDs to clients, by contraceptive method (August 2009-September 2010)

<table>
<thead>
<tr>
<th>Method</th>
<th>No. of clients</th>
<th>Percentage % of total clients</th>
<th>Percentage % of subset using method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depo-Provera</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Former clinic users</td>
<td>614</td>
<td>49</td>
<td>74</td>
</tr>
<tr>
<td>• New to FP</td>
<td>118</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>• New to DMPA</td>
<td>100</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>832</strong></td>
<td><strong>67</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td><strong>Pills</strong> (including EC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• New users</td>
<td>53</td>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>• Revisits</td>
<td>96</td>
<td>8</td>
<td>64</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>149</strong></td>
<td><strong>12</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td><strong>Condoms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• New users</td>
<td>102</td>
<td>8</td>
<td>52</td>
</tr>
<tr>
<td>• Revisits</td>
<td>93</td>
<td>7</td>
<td>48</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>195</strong></td>
<td><strong>16</strong></td>
<td><strong>100</strong></td>
</tr>
<tr>
<td><strong>Referrals to health center</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>69</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1245</strong></td>
<td></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Percentage inexact due to rounding.

**Reinjection**

While there is no single standard measure for the quality of community-based delivery of injectables, re-injection rate is a proximate measure for quality because it suggests a degree of client satisfaction with the method and services received. Table 2 shows the proportion of eligible clients who received a re-injection from a CBD. The re-injection rates were 89%, 81% and 68% at 3 months, 6 months and 9 months, respectively.

To maintain protection against pregnancy, it is recommended that clients receive DMPA injections every three months or 13 weeks. Implementing partners conducting the monthly M&E visits confirmed that the vast majority of re-injections occurred on time – i.e., within the WHO-recommended grace period for re-injection. (This grace period is two weeks before the scheduled re-injection date and four weeks after, resulting in an 11- to 17-week re-injection window after the last injection.)

The high preliminary re-injection rate in this pilot project reflects well on the CBDs’ ability and performance. Since the CBDs were based in the community, they were able to follow up personally the clients who forgot their re-injection dates, thus helping to enhance DMPA continuation.
Table 2: Re-injection rate among CBD DMPA clients

<table>
<thead>
<tr>
<th>Eligible clients receiving re-injections</th>
<th>Reported related needle – stick injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st reinjection (at 3 months)</strong></td>
<td><strong>2nd reinjection (at 6 months)</strong></td>
</tr>
<tr>
<td>Tharaka pilot sites (31 CBD agents)</td>
<td>89% (n=761)</td>
</tr>
</tbody>
</table>

*Percentages calculated among those clients who were eligible for a second, third or fourth injection

Discontinuation

1 in 10 CBD DMPA eligible clients did not receive their first reinjection, 1 in 5 did not receive their second reinjection while 3 in 10 did not receive the third reinjection. A number of reasons were given for discontinuation, including the desire to have additional children, temporary separation from spouses, side effects, and moving out of the village. In some cases, CBDs were not able to reach these clients to establish reasons for discontinuation.

More specifically, some clients decided to discontinue DMPA use because of amenorrhea and/or desire to switch to another family planning method. Other clients chose not to receive their re-injection because their husband was away and thus they felt they could not get pregnant. Meanwhile, a few other clients expressed intention to receive their re-injections but missed receiving their shot on time due to flooded roads or other natural phenomena preventing travel to the CBD’s home.

Family planning uptake in Tharaka district

Table 3 presents the numbers of clinic clients accessing various family planning services in Kanyuru, Rukenya and Kibung’a dispensaries before and during the pilot intervention. These data suggest that CBD provision of services may have helped boost demand for DMPA in Tharaka district’s health facilities, as clinics experienced an increase from 166 to 263 DMPA clients (a 58% increase) in the first three months of the pilot and a further increase to 341 clients (30% increase) towards the end of the intervention.

It also appears that contraceptive pills may have become slightly less popular compared to DMPA, as evidenced by the decrease in pill clients over the course of the pilot period.
Table 3: Clinic-based family planning services provided before and during the pilot intervention

<table>
<thead>
<tr>
<th>Method provided</th>
<th>3 months before intervention (Jun - Aug ’09)</th>
<th>First 3 months of intervention (Sept - Nov ‘09)</th>
<th>Last 3 months of intervention (May- July ’10)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMPA</td>
<td>166</td>
<td>263</td>
<td>341</td>
<td>770</td>
</tr>
<tr>
<td>COCs</td>
<td>59</td>
<td>12</td>
<td>29</td>
<td>100</td>
</tr>
<tr>
<td>POPs</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Implants</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>IUCD</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Finally, Figure 1 illustrates that the total number of DMPA clients receiving services from CBDs (832) was greater than the number of clients served at district health facilities (770) during the same time period. Again, this suggests that CBDs play a significant role in reaching underserved women with family planning services.

Figure 1: Comparison of number of DMPA clients between Tharaka district clinics and CBDs, August 2009 – July/August 2010

Safety
No injection-related complications or adverse events were reported during the demonstration project. It is worth noting that during this period, the CBD agents provided a total of 2453 injections. Avoidance of needle-stick injuries is an important aspect of safe delivery of DMPA at the community level, a review of the supportive supervision checklists showed that none of the CBDs suffered a needle prick. They also did not experience any problems while screening their clients with the screening checklists.
Conclusions and recommendations

This pilot project has generated local, Kenya evidence that confirms the safety, acceptability and feasibility of CBD provision of DMPA, as demonstrated globally through research in other African countries and elsewhere.

Given the large percentage of Kenyans living in rural areas with inadequate access to family planning services, every effort should be made to reach this underserved population with a broad range of contraceptive methods. Community based distributors are a safe, acceptable, feasible and effective means for doing so. CBD provision of DMPA has enormous potential to save women’s lives and assist Kenya in meeting Vision 2030 and Millennium Development Goals. The minimal investment required to scale up this important service delivery model enhances the potential to recover significant funds in other sectors, while preventing loss of lives to maternal mortality and contributing to national development.

The following are some of the successes, challenges and lessons learned during the period of the pilot project:

**Successes, challenges and lessons learned**

- It takes time to introduce an innovation that changes conventional clinical service provision and introduces task sharing.
- Integrating a new innovation into the existing MOH structure lays a firm foundation for future sustainable scale-up and also creates ownership for the project.
- Working collaboratively with several partners generates adequate resources to support the project and the technical and management expertise to enrich it.
- It is essential that partners develop a framework to work together, preferably using collaborative work plans in which each partner’s role is clearly defined.
- Involving the DHMT in pilot project management is instrumental in ensuring effective project operation and contraceptive security.
- Inadequate staffing in health facilities has the potential to compromise supervision of the CBDs, but it is possible to overcome such challenges by implementing creative solutions.
- Training CBDs at the beginning is essential, but updates and refresher sessions should continue throughout implementation. Informal refresher sessions reinforce key training messages and help build and maintain CBD knowledge and skills.
- Forms and processes for tracking CBD commodities are complex and need to be simplified. CBDs’ input, as well as that of the health facility staff, should be solicited to inform future revisions of these tools and commodity management processes.
- Shortages in contraceptive supplies can be minimized if supervisors work closely with CBDs to address contraceptive stock issues and help them properly forecast commodity needs.
- Sustainability of the intervention was ensured as the intervention was implemented within the community strategy structure utilizing the CHEWs as the supervisors of the CBDs.
- Replicability of the pilot was enhanced as it was implemented in an environment that reflected the reality on the ground, and therefore can be replicated with the same results in similar areas elsewhere in the country.
Recommendations for scale-up

Based on the positive results from the pilot project, the Division of Reproductive Health together with collaborating partners makes the following recommendations:

1) **MOH should create a conducive policy environment for community-based access to injectable contraception.** Developing a policy addendum, for example, to officially allow CBD provision of DMPA would increase access to women’s most preferred contraceptive method, particularly among underserved and hard to reach communities.

2) **The MOH should engage nurses, midwives and other professional medical groups in discussions about task sharing.** All of these groups have a critical and complementary role to play in addressing acute shortages of health workers, particularly in remote and rural areas, as well as the 1 in 4 women’s unmet need for family planning services. It is important to continue to understand and address their concerns and to gain their support for increasing community-based access to family planning services.

3) **The MOH should enlist the support of the Project Advisory Committee (PAC) and implementing partners from this pilot project when planning technical assistance for scale-up efforts.** These groups have gained a great deal of knowledge and experience that can contribute to potential expansion of the intervention to other districts.

4) **MOH should consider replicating this innovative approach to increasing access to family planning services, especially given the renewed focus on strengthening implementation of the Ministry’s community strategy.** Indeed, the CBDs were able to reach large numbers of clients in the community with their services, including clients who had never been reached before with family planning services.
Appendix 1: Supervision structure and checklists

Supervisory structure
Figure 3 provides a diagrammatic overview of the supervision system described above:

Figure 3: Monitoring and supportive supervision structure

CHWs

Community Health Extension Workers (CHEWs)
The CHWs are all linked to a health center near them. The CHEW at the health unit is the first point of contact for the CHWs. S/He is responsible for routine supervision, technical support, re-supply and review of CBD data.

A Health Unit In-charge (HIC)
The health unit could be a dispensary headed by a registered nurse or a health centre, typically headed by a Clinical Officer who is ultimately responsible for all activities at the health facility. In some cases the head of the health unit is also a CHEW. The HIC will requisition for contraceptive supplies from the district level based on CHW and health facility data.

CBD District Core Team
The Core Team at the district level is responsible for overseeing all CBD provision of DMPA activities. These include training, supervision and tracking of progress. The Core Team is headed by the District Medical Officer of Health (DMOH) and includes the District Public Health Nurse (DPHN) and any other district level personnel involved in RH and community based activities. The CBD Core Team is represented in the PAC.

District Medical Officer of Health (DMOH)
**Supervision checklists**

Supervision checklists are completed by supervisors to monitor and provide feedback on quality of the CBDs’ services:

- **Structured Observation Checklist** allows supervisors to assess CBDs’ counseling and injection skills during their clinical practicum. CBDs were required to have successfully completed at least four supervised injections with competence prior to being certified to administer injections on their own. This checklist was also intended to be used by supervisors at random intervals post-training; however, this did not occur during the demonstration project.

- **Supportive Supervision Checklist** is used to guide discussions between supervisors and CBDs on the routine provision of Depo-Provera. Topics include safe needle disposal, resupply, referral, and needle-stick injuries. This form was used once CBDs began work in their communities and their supervisors had an opportunity for direct observation. It was expected that at least three of these forms should be completed per CBD within the demonstration project period; however, this has not yet occurred.
## Training Checklist for Supervisors: Evaluating CBD Counseling and Injection Skills

**CBD:** _________________________________  **Client:** _______________________________  **Observation no.:** ____________________  **Supervisor name:** ___________________________  **Date:** ________________________

**Client’s permission to participate in practicum obtained:** __________  
______  client’s initials  _______  supervisor’s initials

### Overall
- Establishes and maintains rapport ..............................................
- Shows respect and does not judge client ....................................
- Uses simple, clear language ....................................................
- Actively listens to client ...........................................................
- Attends to client’s emotional needs ............................................
- Encourages client participation ...................................................
- Explains what will occur during visit and procedures ................
- Ensures client understanding and corrects misunderstandings ..
- Uses appropriate body language ..............................................
- Ensures confidentiality and privacy ...........................................
- Uses job aids appropriately ......................................................

### Assess Client’s Needs and Concerns
- Asks about reason for visit ........................................................
- Asks about client’s partner(s), children, family relationships ........
- Asks about plans to have children, desire for FP (e.g., spacing, limiting) ............................................................
- Explores STI risk and what client does to avoid STIs .................

### Provide Information and Options Related to Client’s Concerns
- Advises on safer sex (i.e., abstain, fewer partners, use condoms) ..............................................................

### Provide Assistance to Support Client’s Decision
- Gives contraceptive method(s) including condoms for dual method use ...........................................................
- Demonstrates correct use and reinforces/corrects client’s demonstration .................................................................
- Reminds client about side effects and reasons for returning ........
- Arranges referral to outside services (if needed) .........................

### Give Depo Injection
- 1. Describes injection procedure and explain where injection is given.
- 2. Shows sealed bottle and read the expiration date on label to client.
- 3. Washes hands well with soap and water. Lets hands air dry.
- 4. Double-checks the bottle for content, dose, and expiration date.
- 6. Rolls bottle between palms to mix the contents.
- 9. Fills syringe with contents of the bottle. Expels air from syringe while needle is still in the bottle.
- 11. Locates the exact site for injection on client’s arm. (Uses midpoint between thumb and finger outstretched from the bony part of the shoulder to the upper arm.)
- 12. Cleans injection site with spirit swab and dispose in safety box.
<table>
<thead>
<tr>
<th>Advises on use of contraceptive methods and preventing pregnancy</th>
<th>13. Inserts needle straight into the muscle.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refers client to clinic for other identified issues or concerns</td>
<td>14. Withdraws the needle slightly to confirm the needle is not in a blood vessel.</td>
</tr>
<tr>
<td>Facilitate Informed Decision-making and Problem-solving</td>
<td>15. Injects the entire contents of the syringe and remove the needle from the arm.</td>
</tr>
<tr>
<td>Gives client FP options using counseling tool</td>
<td>16. Gently presses (don’t rub) the injection site with a clean cotton ball.</td>
</tr>
<tr>
<td>Decides eligibility using screening checklist or re-injection job aid</td>
<td>17. Places the used syringe into the sharps container.</td>
</tr>
<tr>
<td>Reaches agreement about FP method in partnership with client</td>
<td>18. Instructs the client not to massage the site.</td>
</tr>
<tr>
<td></td>
<td>19. Washes hands with soap and water.</td>
</tr>
<tr>
<td></td>
<td>20. Schedules re-injection visit to occur 13 weeks from today. Explain to the client when to return for her next injection.</td>
</tr>
<tr>
<td></td>
<td>22. Reviews with client information about effects of Depo.</td>
</tr>
<tr>
<td></td>
<td>23. Encourages client to return any time if there are any questions or concerns.</td>
</tr>
<tr>
<td></td>
<td>24. Records information on client card and other data collection forms and thanks the client.</td>
</tr>
</tbody>
</table>

**Specific Notes/Observations Regarding CBD’s Performance:**

- ..............................................................................................................................................................
- ..............................................................................................................................................................
- ..............................................................................................................................................................
- ..............................................................................................................................................................
- ..............................................................................................................................................................
- ..............................................................................................................................................................
- ..............................................................................................................................................................
- ..............................................................................................................................................................

**Overall Score for this observation**

- ______ Passed
- ______ Failed

CBD signature: _________________________________

Supervisor signature: _________________________________
Sample: Supportive Supervision Checklist

Name of CBD Agent: ___________________________
Date of supervision: ____________________________

Purpose of this checklist: This checklist is for supervisors of CBD agents to complete. It is intended to guide discussions between supervisors and CBDs on the routine provision of Depo-Provera. Topics include safe needle disposal, resupply, referral, and needle-stick injuries.

Frequency of use: This form will be used once CBD agents have begun work in their community and their supervisors have an opportunity for direct observation. At least three of these forms should be completed per CBD agent within the pilot project period.

Answers to be recorded by the supervisor:

1. Did you experience any problems while screening your clients with the DMPA checklist since our last visit/discussion?
   - No
   - Yes (explore the nature of the problems, record below, and clarify issues for the CBD worker)

2. Did you deny DMPA to any of your clients based on the screening checklist?
   - No
   - Yes (record the reasons for not providing DMPA)

3. Briefly describe your counseling sessions with new DMPA clients. (record whether the CBD worker addressed the following)
   - Safety and effectiveness
   - How it prevents pregnancy
   - How it is used
   - Common side effects
   - Return to fertility (possible delay getting pregnant after DMPA stopped)
   - When to return for the next injection
   - Where to go in case of symptoms (such as profuse bleeding and severe headache), questions, or concerns

4. Briefly describe your counseling sessions with returning DMPA clients. (record whether the CBD worker addressed the following)
   - Asked the client about any new health conditions since the last visit
   - Asked if the client had any questions or concerns about DMPA
   - Asked about any side effects and reassured as needed or referred client to a health facility
   - Explained when the client should receive the next injection
5. Since we last met, do you have clients who were late for their next injection by more than 4 weeks? (explore what the CBD worker is currently doing to ensure timely injections and what could be done differently if needed)
   - Yes
   - No
   - Discussed strategies with the clients to ensure timely injections

6. Did you have any clients who come earlier than return date?
   - Yes
   - No
   - Discussed strategies with the clients to ensure timely injections

7. Describe how you dispose of used syringes, swabs and vial. (record whether the CBD worker does the following)
   - Discard assembled needle and syringe in a puncture-proof container without recapping, breaking, or bending the needle.
   - Place the sharp container within reach when giving an injection
   - Do not recap the needle
   - Place the syringe with needle in the sharps container immediately after use
   - Do not overfill sharps containers
   - Do not re-use containers; take to the nearest health facility for incineration when ¾ full.

8. Describe how you dispose of waste such as syringes, swabs, vial and wrappers?

9. Ask the CBD worker what he/she is currently doing to maintain supplies. If concerns or issues are raised; ask him/her what could be done differently. Supervisor and CBD worker to discuss strategies for maintaining supplies.

10. Did you refer any new clients to a clinic for Depo-Provera or another method?
    - No
    - Yes (record whether the CBD worker followed up to see whether the client followed through on the referral)

11. Did you refer any continuing clients to a clinic for problems?
    - No
    - Yes (record examples of problems experienced by the clients)
12. Did you suffer any needle-prick injuries?

- No
- Yes (record if the CBD worker sought treatment for a needle prick within 48 hours and any immediate actions taken)
Appendix 2: Monitoring and evaluation strategy

### Outcome 1: Change in total number of family planning users (clinic and CBD clients) in intervention area compared to prior to intervention

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Source</th>
<th>Indicator computation</th>
</tr>
</thead>
</table>
| # of modern FP users (both CBDs and Clinic clients) | Clinic registries; CBD Client Tracking Cards | The following data are to be compiled for all clinics to which CBDs trained to provide DMPA are attached for 12 months immediately preceding and during the intervention:  
  - # FP clients;  
  - new DMPA clients; and  
  - returning DMPA clients.  
  
The same data will be collected at the end of the 12th month of the intervention for comparison purposes. |

### Outcome 2: 12-month discontinuation rates for CBD clients using DMPA through CBDs.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Source</th>
<th>Indicator computation</th>
</tr>
</thead>
</table>
| 12-month discontinuation rate for DMPA among CBD clients  
# of CBD clients receiving reinjection on due date (or not more than 4 weeks after due date)  
# of CBD clients switching to clinic provision of DMPA  
# CBD clients switching to other methods. | CBD Client Tracking Cards |  
- CBD clients’ data will be used to estimate discontinuation rates.  
- Switch over from CBD to clinic provision of DMPA will be regarded as continuation but linkage with clinic registry will not be mandatory.  
- CBD clients switching from DMPA to other methods will be recorded and deducted from the denominator of DMPA users.  

The continuation rate obtained will be compared against the average for the province from the latest DHS report.  

### Outcome 3: Change in average returning DMPA clients served per day in the clinics to which CBDs are attached compared to prior to intervention.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Source</th>
<th>Indicator computation</th>
</tr>
</thead>
<tbody>
<tr>
<td># of clients receiving repeat DMPA injections from clinics to which CBDs are attached</td>
<td>Clinic registries</td>
<td>Data on clinic client volumes for all FP methods and for DMPA-specific over three months immediately preceding the intervention will be compiled for all the clinics in the intervention area to which CBDs are attached. Same data will be compiled at the 12th month and covering the last three months of the intervention (months 10, 11 &amp; 12). The above data should cover months when the contraceptive stock situation (especially DMPA) was stable (i.e. no stock out).</td>
</tr>
</tbody>
</table>
Appendix 3: Members of the CBD of DMPA Project Advisory Committee (PAC)

Representatives listed below have attended a PAC meeting, taken part in the Uganda educational tour and/or participated in the Tharaka field visits & activities.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Representative(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christian Health Association of Kenya</td>
<td>Agnes Njue, Joseph Oyongo</td>
</tr>
<tr>
<td>Chogoria PCEA Hospital</td>
<td>Becky Mugambi, Eliphas Mutegi</td>
</tr>
<tr>
<td>Division of Clinical Medicine</td>
<td>Manasseh Bocha</td>
</tr>
<tr>
<td>Engenderhealth</td>
<td>Feddis Mumba, Dr. Fredrick Ndede</td>
</tr>
<tr>
<td>Family Health Options Kenya</td>
<td>E Muketo, Dr. Lawrence Oteba</td>
</tr>
<tr>
<td>Family Health International</td>
<td>Alice Olawo, Dr. Marsden Solomon, Willis Odek</td>
</tr>
<tr>
<td>JHPIEGO/APHIA II Eastern</td>
<td>Dr. Isaac Malonza, Jane Gitonga, Jane Otai, Dr. Kenneth Chebet, Dr. Kennedy Manyonyi, Moses Nyaiyemi, Nancy Koskei, Patrick Mose, Dr. Ruth Jahonga, Dr. William Obwaka, Stu Merkel, Rosemary Kamunya, Zipporah Mureithi</td>
</tr>
<tr>
<td>Kenya Clinical Officers Association</td>
<td>Wesley Tomno</td>
</tr>
<tr>
<td>Kenya Medical Association</td>
<td>Dr. Otieno Nyunya</td>
</tr>
<tr>
<td>Kenya Medical Supplies Agency</td>
<td>Ernest Kyalo</td>
</tr>
<tr>
<td>Kenya Medical Training College</td>
<td>Gladys K’oyengo</td>
</tr>
<tr>
<td>Kenya Obstetrical and Gynecological Society</td>
<td>Dr. Njoroge Waithaka</td>
</tr>
<tr>
<td>Marie Stopes Kenya</td>
<td>Dr. Margaret Kilonzo, Richard Olewe</td>
</tr>
<tr>
<td>Ministry of Public Health and Sanitation, Division of Reproductive Health</td>
<td>Anne Njeru, Dr. Bashir M. Issak, Cosmas Mutunga, David Nyaberi, Elizabeth Washika, Fatuma Dubow, Gladys Someren, Rose Maina, Mary Gathitu</td>
</tr>
<tr>
<td>Ministry of Public Health and Sanitation, Division of Community Health Services</td>
<td>Jane Koech</td>
</tr>
<tr>
<td>Organization</td>
<td>Representative(s)</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>Ministry of Health/GTZ Programme</td>
<td>Njeri Mukoma</td>
</tr>
<tr>
<td>Ministry of Medical Services, Head Office</td>
<td>Lucy Gitonga</td>
</tr>
<tr>
<td>National Nurses Association of Kenya</td>
<td>Joyce Oduor</td>
</tr>
<tr>
<td>Nursing Council</td>
<td>Evangeline Mugo, Fredrick Ochieng</td>
</tr>
<tr>
<td>PATH</td>
<td>Janet Shauri, Ronald Ng’iela</td>
</tr>
<tr>
<td>Pharma Access</td>
<td>Vincent Mariani</td>
</tr>
<tr>
<td>Population Council</td>
<td>Anne Mwangi, Benter Owino (Formerly)</td>
</tr>
<tr>
<td>Population Services International</td>
<td>Lilian Sillingi, Dr. Moses Mwaniki, S. Mavalia</td>
</tr>
<tr>
<td>Provincial Health Management Team, Eastern</td>
<td>Louisa Muteti, Timothy Mbaka, Anisa K. M'aribu</td>
</tr>
<tr>
<td>Tharaka District Health Management Team</td>
<td>Alex Mwirichia, Dr. Edward Munyi, Mohamed Hambulle; Dr Munga, Dr. Peace. Mukami, Muge</td>
</tr>
<tr>
<td>Tharaka Local Administration</td>
<td>District Commissioners, District Officers, Area Chiefs &amp; Assistant Chiefs</td>
</tr>
<tr>
<td>University of Nairobi, Department of Community Health</td>
<td>Dr. M Mwanthi, Dr. Peter K. Njoroge</td>
</tr>
<tr>
<td>United Nations Family Planning Association</td>
<td>Dr. Stephen Wanyee</td>
</tr>
<tr>
<td>United States Agency for International Development</td>
<td>Jerusha Karuthiru, Shawn Malarcher</td>
</tr>
<tr>
<td>World Health Organization</td>
<td>Dr. Joyce Lavussa</td>
</tr>
</tbody>
</table>
Appendix 4: List of CBDs trained

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Health Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jeniffer Kanyua Nduyo</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>2</td>
<td>Joseph Mwathi Muchege</td>
<td>Kibung’a</td>
</tr>
<tr>
<td>3</td>
<td>Susan Kangai Kathurima</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>4</td>
<td>Rebecca Gaturin Gikou</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>5</td>
<td>Margaret Karoa Nyaga</td>
<td>Kibung’a</td>
</tr>
<tr>
<td>6</td>
<td>John Gitonga Mukura</td>
<td>Rukenya</td>
</tr>
<tr>
<td>7</td>
<td>Hellen Kanyua Kaibei</td>
<td>Rukenya</td>
</tr>
<tr>
<td>8</td>
<td>Teressa Maira Kimbo</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>9</td>
<td>Nathaniel Karungi Kilonzo</td>
<td>Rukenya</td>
</tr>
<tr>
<td>10</td>
<td>John Kithinji</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>11</td>
<td>Julia Kajuki Kathare</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>12</td>
<td>Miriam Kaburi Mwambia</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>13</td>
<td>Joyce Mukami Kenyatta</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>14</td>
<td>Pheris Karimi Mutugi</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>15</td>
<td>Moses Njeru Kinyua</td>
<td>Kanyuru</td>
</tr>
<tr>
<td>16</td>
<td>Julius Mwinji KiBaara</td>
<td>Kibung’a</td>
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References


